

116-2



High Temperature
Furnace Cements
for
Every Purpose

Plants—
Chicago, Ill.
Cincinnati, O.
Ridgely, Pa.

HOTT-PATCH

(Dry) Furnace Cement

ESSO BOND

Plastic Furnace Cement

ESSO No.33

(Dry) Silicon Carbide Base Cement

ESSO BOND No.40

Plastic Furnace Cement

RAMTITE

Plastic Monolithic Furnace
Lining Material

Manufactured by

The S. OBERMAYER Co.
2563 WEST 18TH STREET, CHICAGO



THE S. OBERMAYER COMPANY specializes in the manufacture of Refractory Cements for the construction and maintenance of industrial furnaces and power plant units. Our various products are conceived with a view to securing the best results under the exacting conditions and demands of the refractory field.

Results for the user are our aim, and it is with this in view that we offer for your consideration the refractory cements described in this booklet.

THE S. OBERMAYER COMPANY has attained leadership in many lines, leadership gained through an organization vitally interested in the products and services which are offered.

THE S. OBERMAYER COMPANY wishes satisfied and permanent users of their products and to this end unconditionally guarantees its Refractory Cements.

HOTT-PATCH

Hott-Patch High Temperature Cement

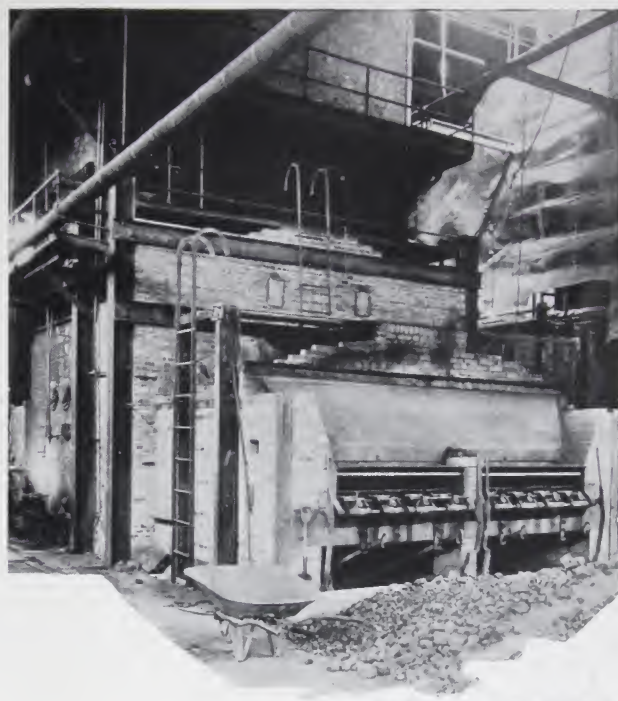
(Patent Nos. 1,327,758, 1,327,016, Jan. 13, 1920)

HOTT PATCH is a dry, refractory cement, impregnated with a patented binder. Made plastic by the addition of water for laying all fire clay and silica brick and kindred uses. Very fine in texture and will form a joint between fire brick which is close and tight.

CHARACTERISTICS.

High Mechanical Strength.
Density and Hardness,
High Fusion Point,
Resistance to Slags and Fluxes,
Becomes hard at normal temperatures.

HOTT PATCH is an acid refractory and therefore should be used with all types of acid brick and refractory materials. It sets cold and upon drying forms a permanent union between fire brick.



*KOKAL STOKER
setting laid in HOTT
PATCH.*

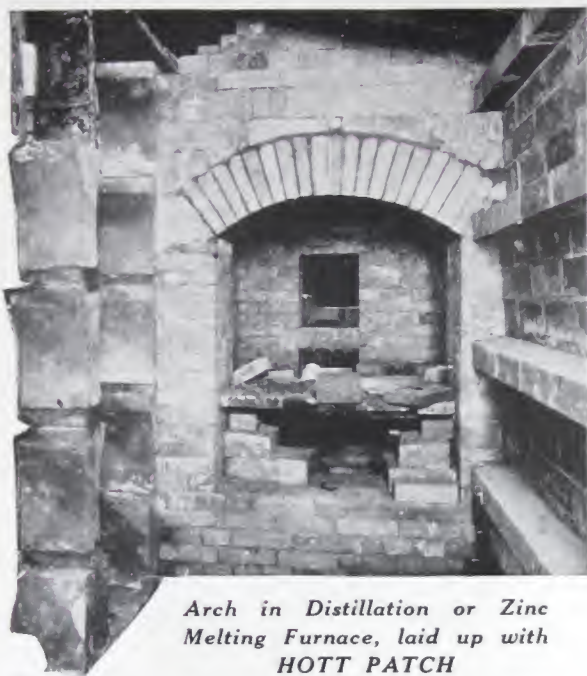
HOTT PATCH can be mixed with various refractories for furnace repairs, such materials as carborundum firesand, gannister, calcined flints or other granular refractory materials as used in various types of furnace work.

HOTT PATCH begins to vitrify at approximately 1800° F. and will withstand the action of flame and heat up to its maximum temperature of 2800° F.

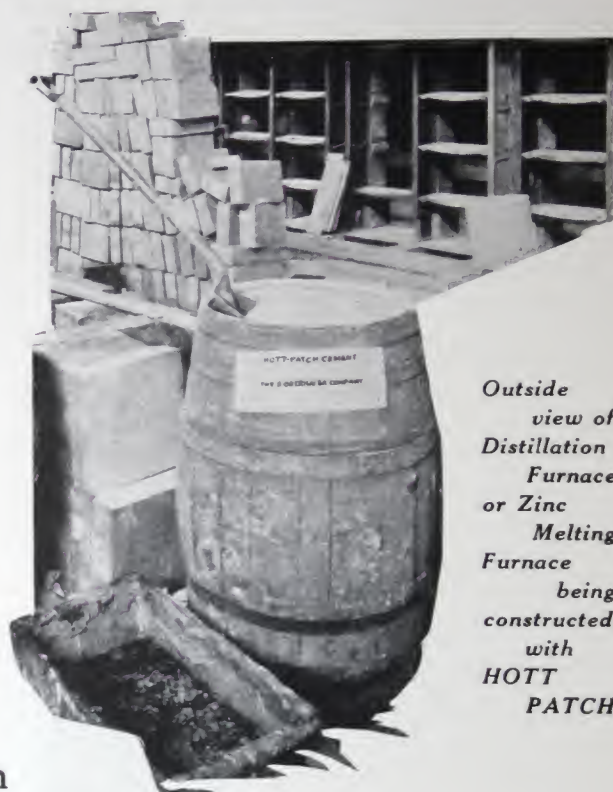


The S. OBERMAYER CO.

HOTT-PATCH



Arch in Distillation or Zinc Melting Furnace, laid up with HOTT PATCH



Outside view of Distillation Furnace or Zinc Melting Furnace being constructed with HOTT PATCH

Where to Use Hott-Patch

Natural draft boiler settings.
Forging Furnaces.
Heating Furnaces.
Soaking Pits.
Open Flame Melting Furnaces.

Gas Retorts.
For Spraying furnace linings and coke oven jams.
Zinc Smelting Furnaces and various other types.

HOTT PATCH can be fired immediately and does not require any lost time in slow drying or air drying. Either condition of firing or slow drying has no effect upon the bond in HOTT PATCH.

Should HOTT PATCH become air dried, the simple addition of water causes it to regain its plastic properties. This feature alone represents a development of the highest order, making it an appreciable economy to all who use it.



Inside view Zinc Melting Furnace. HOTT PATCH used in setting brick and tile.

The S. OBERMAYER CO.

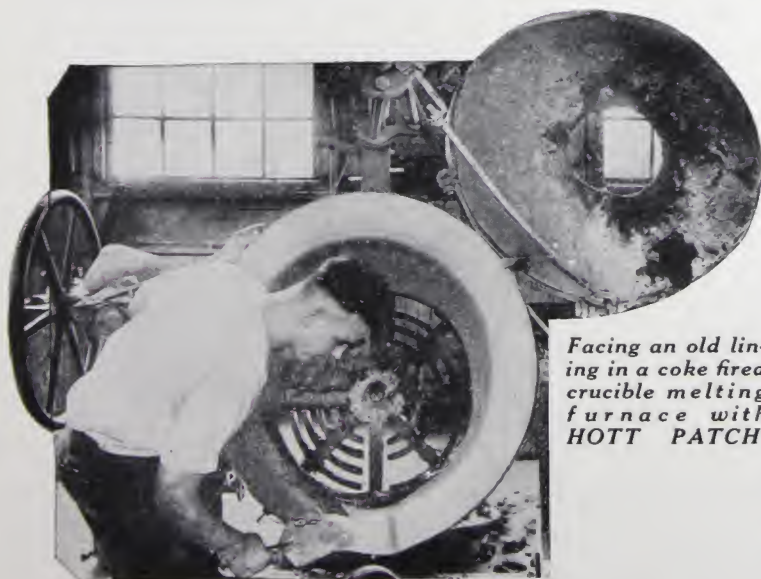
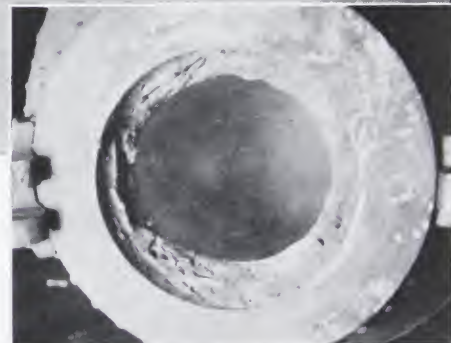
HOTT-PATCH

HOTT PATCH when mixed with granular refractories to meet various furnace conditions produce some fine results and is commercially used in this manner with such mixes as various grades of Silicon Carbide and Carborundum Firesand. Also refractory grades of Silica Gannisters, Calcined Flints, and crushed Fire Brick. These mixtures have been used for patching and repairing open flame melting furnaces, also for complete linings for these types of furnaces, and ladle linings.

These mixtures are also desirable for laying fire brick in various types of metallurgical furnaces. In such cases the type of gannister mixed with HOTT PATCH is chosen to meet the particular conditions or resist the metal or slags made in the furnaces.



Schwartz Furnaces in a large brass foundry, where HOTT PATCH and Carborundum are used for maintenance of linings.



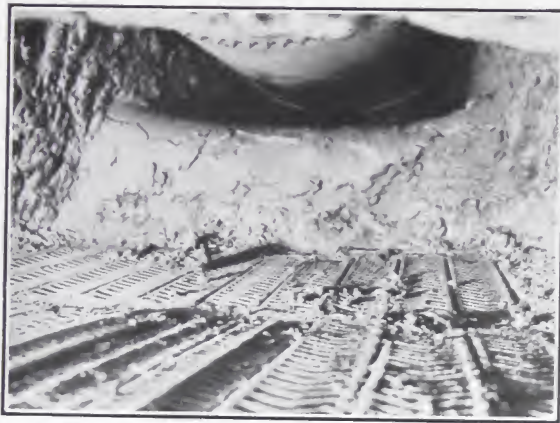
Facing an old lining in a coke fired crucible melting furnace with HOTT PATCH.

HOTT PATCH when mixed with other refractory materials, such as gannister, firesand and the like, materials should first be mixed thoroughly with HOTT PATCH dry, and the water added last. This insures a uniform mix with less mixing labor.

HOTT PATCH does not deteriorate in stock and will last indefinitely. Shipped dry, to meet your convenience, in paper lined burlap bags and barrels. Bags weighing 125 pounds each and Barrels 500 to 700 pounds each.

The S. OBERMAYER Co.

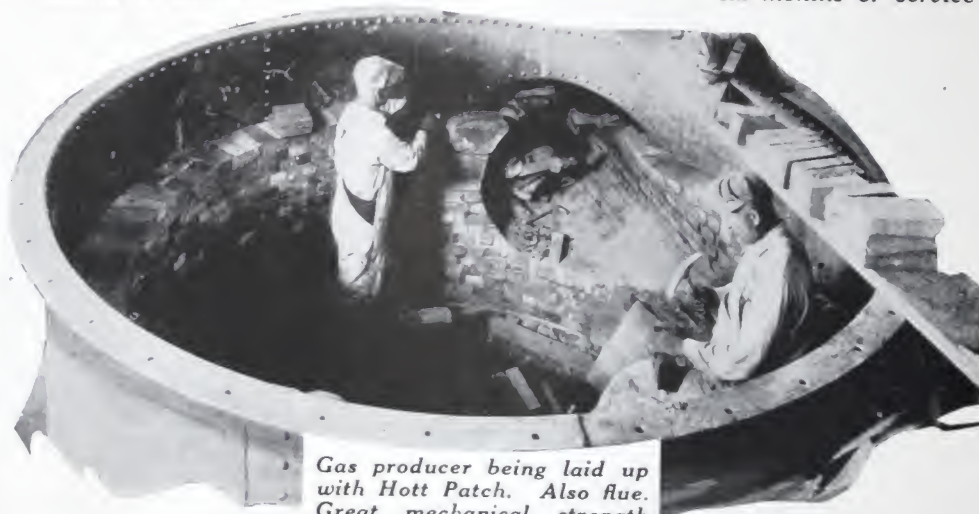
HOTT-PATCH



Boiler Setting laid in fire clay, after six months of service



Sister Boiler laid in HOTT PATCH after six months of service



Gas producer being laid up with Hott Patch. Also flue. Great mechanical strength makes Hott Patch acceptable for this purpose.

HOTT PATCH is a tried and proven material, having been used successfully in industrial plants for a number of years, and is a combination of blended refractories to meet specific demands of the furnace user. It is one of the most moderate priced refractory materials on the market, selling at $3\frac{1}{2}$ c per pound in various quantities.

FORMULAS

For Laying
Heavy Batter
100 Pounds Hott Patch
6 Qts. Water

Ramming Mixture
100 Pounds Hott Patch
5 Qts. Water

For Grouting
Light Batter
100 Pounds Hott Patch
10 Qts. Water

For Surfacing
Medium Batter
100 Pounds Hott Patch
8 Qts. Water

For Washing or Dipping
100 Pounds Hott Patch
14 Qts. Water

MIX ALL BATTERS THOROUGHLY

When ramming—ram by hand. This gives the best results. Avoid using too much cement. Use the given amount and mix thoroughly.

The S. OBERMAYER Co.

ESSO BOND

ESSO BOND

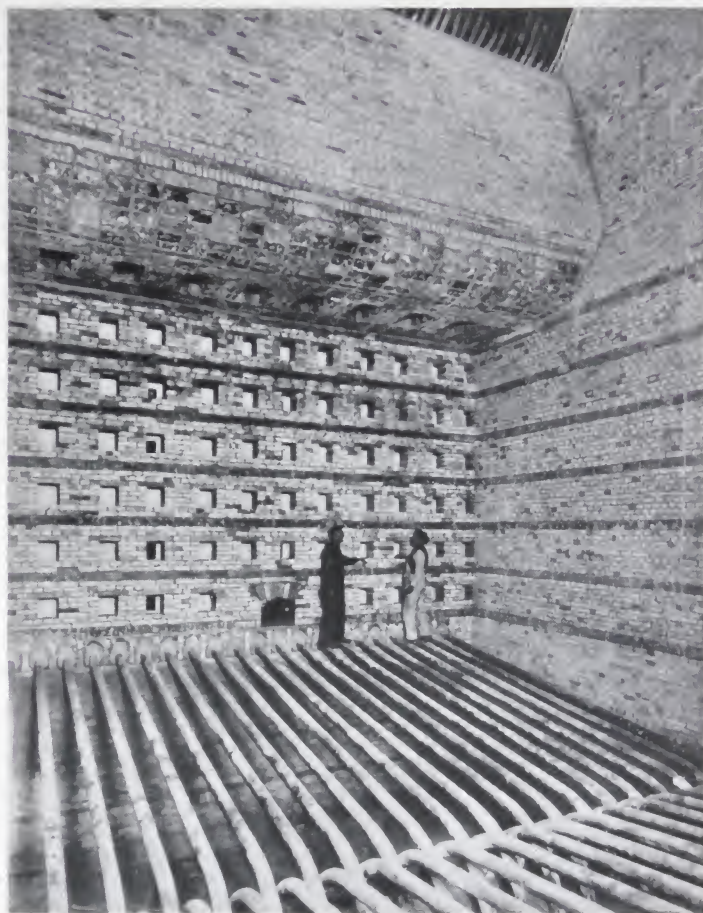
(Trade Mark Registered)

is a highly refractory, plastic, aluminous material, chemically compounded for bonding all fire clay brick and for kindred uses. It forms a lasting union between fire brick, setting at normal temperatures and retaining its strength up to its fusion point of 3002° F.

ESSO BOND does not depend upon heat for its adhesive qualities. It sets at air temperatures and retains its bond. This bond being gas and air-tight and of sufficient mechanical strength to meet all general requirements. ESSO BOND joints show no disintegration or fractures on heating or cooling, but the bond is not of such mechanical strength that the brick may not be salvaged without injury to them. JOINTS determine the permanence of fire brick walls, therefore the joint is considered the weak point in fire brick masonry and the use of ESSO BOND it is a sure method of securing a positive gas and air-tight joint. The gas tight joints prevent infiltration and therefore are a valued fuel economizer.

ESSO BOND is chemically compounded and balanced as to expansion and contraction so as to allow the fire brick to expand and contract without damage to the brick or bond.

ESSO BOND lessens the action of basic slags and the fast fluxing and spawling of fire brick. It also assists in giving better control to the furnace temperature.



A large boiler installation set with ESSO BOND. This setting is a Powdered Fuel installation

Test Report Received From Large Industrial Plant

"ESSO BOND"

Latest Cone—28 Fusing Point.....2966° F.

Fracture Strength—dried1425 lbs.

Fracture Strength—burned1227 lbs.

Expansion— $\frac{1}{2}$ of 1%.....1724° F.

" $\frac{1}{2}$ of 1%.....2120° F.

" $\frac{1}{2}$ of 1%.....2372° F.

" 2/10% at2651° F.

Contraction—7/10% at.....2966° F.

The S. OBERMAYER CO.

ESSO BOND

ESSO BOND is unexcelled for caulking Coke Oven Jams. It insures an absolutely tight jam, one of long life and is unaffected by heating and cooling of the ovens and stands severe weather conditions.



A battery of Coke Ovens using ESSO BOND in Door Jams.

ESSO BOND can be used neat for Jam work on Coke Ovens, or with a mixture of crushed fire brick and silica brick. Where special mixing machinery or equipment is available a mixture of 50% ESSO BOND and 50% Crushed Fire Brick mixed with sufficient water to make properly plastic is very desirable. Where hand mixing is employed, 60% ESSO BOND and 40% Crushed Fire Brick or Gannister is more efficient.

ESSO BOND is also very desirable for washing the linings of Coke Oven Doors to prevent Coke Sticking to same as well as to assist in eliminating tar trouble.

ESSO BOND for Coke Oven Work is packed in a special container weighing 300 pounds, which makes it very adaptable for moving to various places in the ovens.



Coke Oven Door Jams made tight with ESSO BOND

The **S. OBERMAYER CO.**

ESSO BOND

We employ a man thoroughly versed in handling ESSO BOND for Coke Oven Work, who is always available to assist you in obtaining the best results.

Where to Use Esso Bond

In Boiler Settings.
Glass Lehrs.
By-Product Coke Oven Door Jam.
Oil Stills.
Sealing Openings in Walls.
Valve Linings.
Hot Patching Silica Retorts.
Gas Generator Linings.
Carburetor Linings.
Setting Retorts and Repairs.
Washing Furnace Walls.
Pointing-up Brick Work.
Grouting in Furnace Arches.
Annealing Furnaces.

Esso Bond in the Gas Plant

ESSO BOND is used extensively in water gas plants, for laying generator linings. ESSO BOND enables your brick mason to lay a thin, strong joint between the tile or brick that will stand up exceptionally well under the abrasive action when barring clinkers.

Silica retorts or vertical may be hot-patched with ESSO BOND. Such patches will remain intact and will not fall out upon cooling. These patches are generally made thru the use of a long paddle especially shaped to form a sharp edge, so that the cement may be placed upon the end of the paddle, neat, in the form of a ball and rubbed in place under pressure from the paddle.



*Showing Coke Oven Jams Corked with
ESSO BOND*

Gas Producer linings laid in ESSO BOND give long service. Hot gases, mechanical stress and scouring will not affect ESSO BOND joints.

ESSO BOND is an excellent bonding material for setting Generator and Carburetor linings, for Flue and Door Linings and for mending broken tile.

Patching can be done while the brick are still hot and ESSO BOND can be applied to the hottest surfaces without blistering.

In some plants where they use the spraying system, ESSO BOND can be mixed to a thin batter and sprayed into the lining filling the cracks and crevices, which will prevent leaks and increase the life of the lining.

The S. OBERMAYER CO.

ESSO BOND



Varnish Pits and Flues being repaired with ESSO BOND

ESSO BOND is an easy material to use for laying fire brick, hanging tile, filling cracks and spawls or for surfacing.

ESSO BOND comes ready for use in a plastic form, being about the consistency of putty. Can be diluted with water to the desired consistency for various applications. Mixes very quickly and very smooth.

Heating Furnaces laid with ESSO BOND last longer and insure better heating units with better furnace control.



Advantages of Using Esso Bond

Lessens spawling of fire brick.

Lessens mechanical abrasion due to open joints.

Lessens infiltration of cold air and leakage of furnace gases.

ESSO BOND is generally packed in an all hardwood barrel, properly coopered and steeled to support the weight of the material, and silicated so that the material will be preserved indefinitely under ordinary storage facilities.

ESSO BOND will not deteriorate if the remnants of the barrel are covered with water or a damp sack.

Packed in barrels weighing 500 and 800 pounds, also in kegs and steel drums of 250 to 300 pounds capacity.

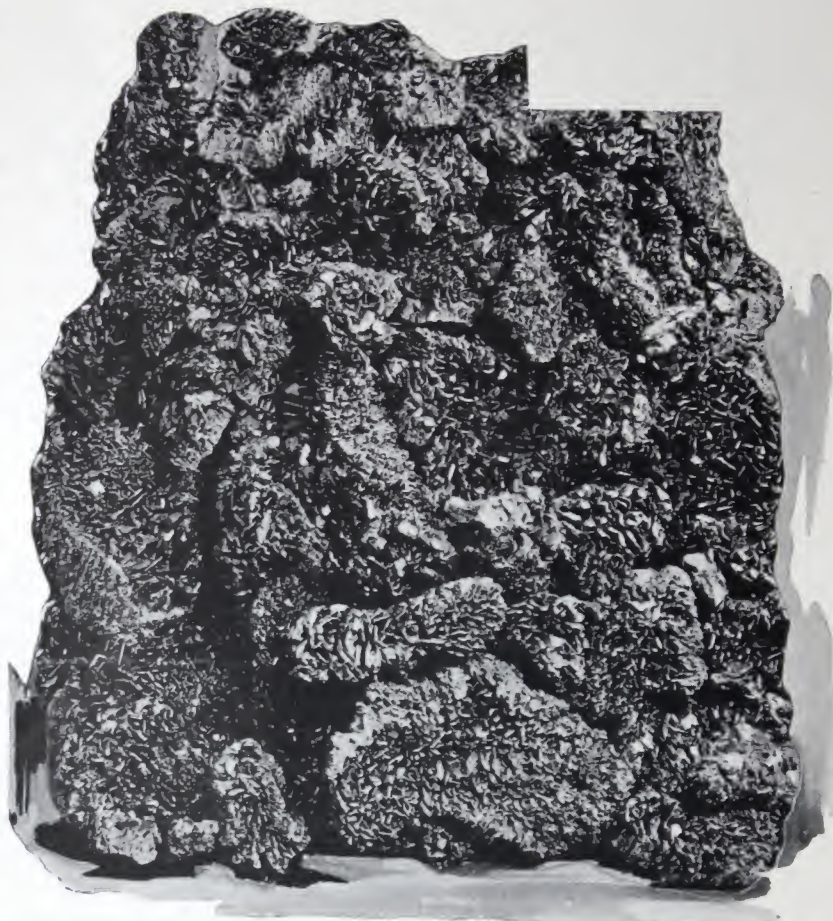
The **S. OBERMAYER Co.**

ESSO No. 33

ESSO No. 33 is a dry crystalline refractory furnace cement of Silicon Carbide Base, made plastic by the addition of water. The base of this refractory is a product of the electric furnace standing a relative temperature of approximately 3300° F. It is extremely resistant to chemical action, but does not withstand the basic substances at high temperatures.

ESSO No. 33 contains no fluxing element of any kind, therefore has no effect upon fire brick. It develops its maximum strength at the highest furnace temperatures.

Silicon Carbide, having the lowest coefficient of expansion of any refractory, makes the expansion and contraction of ESSO No. 33 almost nil. This material is a conductor of heat and offers high resistance to mechanical abrasion.



A specimen of Silicon Carbide Crystals from which various materials are selected as one of the base refractory materials for Esso No. 33.

Physical Qualities

Withstands very high temperatures.

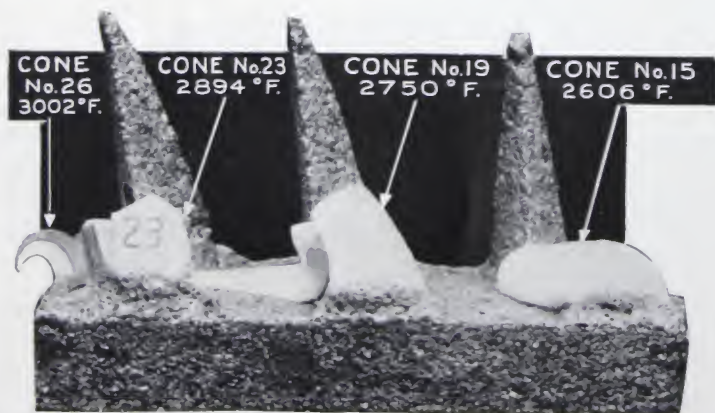
Great Mechanical Strength; does not flux or soften at temperature before the point of breaking down.

Low Coefficient of Expansion; will not shrink or expand from fluctuation of temperatures.

Resistance to Abrasion; withstanding mechanical abrasion and action of oil or gas flames.

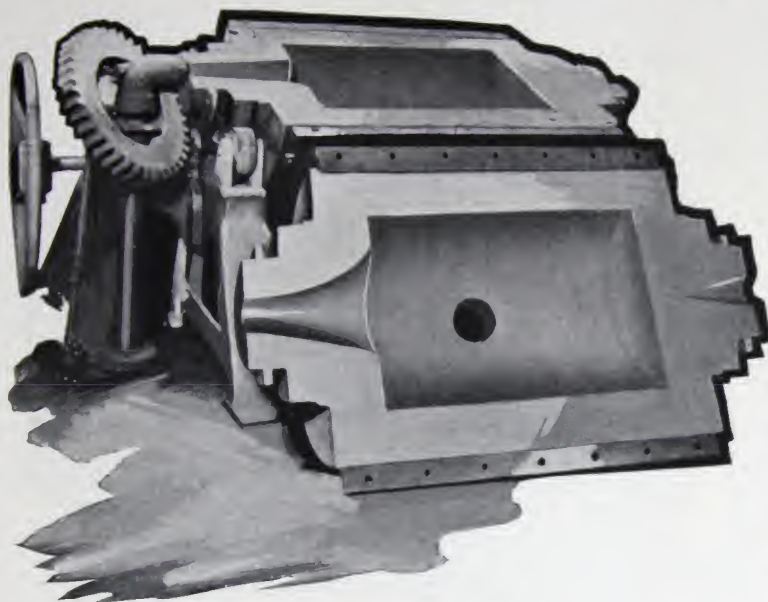
Density; an average of fine and coarse particles which make up the aggregate.

Stands heat immediately without cracking or peeling.



The S. OBERMAYER Co.

ESSO No. 33



A rammed-up Open Flame Furnace Lining made with ESSO No. 33 Cement. Linings made like this last longer.

Where to Use ESSO No. 33

- For Patching Open Flame Furnaces as well as for complete rammed-in linings. No. 33 is especially resistant to flame erosion and high temperatures.
- For daubing or ramming melting zone of pit type furnaces.
- For Patching or repairing Reverberatory Furnaces.
- For Ladle Linings or Ladle Wash for non-ferrous metals.
- For Patching the interior linings of By-Product Coke Ovens.
- For Patching Gas Retorts.
- For Surfacing Brick work where such refractories come in contact with severe cutting action of flames.
- For Making burner blocks and special shapes.

ESSO No. 33 is also manufactured containing a very small amount of long fibre asbestos. The addition of this asbestos fibre being to assist in tying it together for large patches and for covering large surfaces.

For rammed-in furnace linings, this cement should be thoroughly mixed with water, the resulting mix to be the consistency of molding sand, so that no free moisture appears when the mixture is squeezed in the hand. It is good practice, if possible, to prepare your mix on the evening before the day on which you are going to ram your lining, covering this mix with damp sacks so that the moisture will penetrate the entire mass. The following morning mix thoroughly and riddle before ramming.

Mixing ESSO No. 33 for ramming Brass Furnace Linings. Putting thru automatic Riddle to insure better mixing and free from lumps.



The S. OBERMAYER Co.

ESSO No. 33

FOR RAMMING.

100 Pounds Esso No. 33
11 Pints Water
Mix Thoroughly

FOR PATCHING.

100 Pounds Esso No. 33
15 Pints Water
Mix Thoroughly

FOR GROUTING.

100 Pounds Esso No. 33
18 Pints Water
Mix Thoroughly

ESSO No. 33 is packed in Paper Lined Sacks and in hardwood barrels, requiring only the addition of water to form a plastic material.



ESSO No. 33 is unexcelled for non-ferrous metal ladle linings. It insures clean ladles.



Cover tile and Linings of Fisher Furnace kept in good repair thru use of ESSO No. 33.

Approximate number of pounds for laying 1,000 brick—500 pounds. Approximate number of pounds required per 100 square feet to coat the surface of fire brick setting 1/16" thick—75 pounds. After No. 33 has been mixed with water and has become air dried, the simple addition of water will cause it to regain its plastic properties. This feature alone will show an appreciable economy to all who use it.



Monarch Open Flame Furnace Lined with ESSO No. 33.

The S. OBERMAYER Co.

ESSO BASIC

ESSO BASIC is the newest development of our laboratory, being a basic refractory cement for which there has been a long felt want.

ESSO BASIC is shipped in dry granular form, made plastic by the addition of water, becoming hard at air temperatures and standing a relative temperature of approximately cone 35 (3326° F.).

ESSO BASIC has been manufactured for use with all basic fire brick, such as Magnesite or Chrome brick. Also with fire clay brick as a facing, being applied with a brush coating up to one-half inch thick to protect such brick from basic slags, ashes or fluxes.

Facings of ESSO BASIC will not crack or spawl.

ESSO BASIC is ideal for Smelting Furnaces, Ladle Linings and Electric Melting Furnaces, or for repairs on furnace linings where basic slag or the like are encountered.

ESSO BASIC forms a bond between brick which remains strong and perfect even when subjected to extreme and varying working temperatures.

ESSO BASIC is adaptable to spraying with a cement gun.

Various mixes for laying, patching, washes or grouting can be controlled by the amount of water added to secure the proper consistencies for mixes desired.

It is always preferable to mix the material with water several hours before it is used and allow it to stand. This permits the water to migrate and convey the binder thoroughly to all parts of the mix.

ESSO BASIC is shipped in metal cans of 250 lbs. each and in paper lined sacks of 125 lbs. each.



The S. OBERMAYER CO.

RAMTITE

RAMTITE is the plastic, monolithic furnace lining material that forms a one-piece furnace lining, eliminating fire brick joints, the direct cause of many furnace troubles. This product is adapted to complete furnace linings or for patching and repairing burned-out linings. Shipped in a plastic, moist, putty-like state, ready for immediate use without any extra mixing or labor, making gas-tight and air-tight furnace walls. RAMTITE stands a relative temperature of 3146° F.



Open Joints—Why brick walls fail—RAMTITE has no joints.



RAMTITE is better because it is made with virgin materials and with special machinery. RAMTITE is excellent for patching broken or burned-out linings. RAMTITE can be used wherever fire brick can be used. RAMTITE can be used in any boiler, furnace or oven. RAMTITE comes in plastic, moist, putty-like state. RAMTITE makes an air- and gas-tight furnace wall. RAMTITE makes a one-piece furnace lining. RAMTITE weighs 130 pounds to the cubic foot. RAMTITE makes splendid baffles. RAMTITE will outlast fire brick. RAMTITE is easy to install. RAMTITE will save fuel. RAMTITE will stand 3146° F.

Showing method of opening RAMTITE barrel for immediate use.



The S. OBERMAYER Co.

RAMTITE

RAMTITE completely replaces fire brick and fire clay as well as high temperature cements and can be substituted wherever special shapes or forms are required.

RAMTITE may be used as a plaster over ordinary fire brick to increase their life. Will adhere to fire brick walls and may be re-surfaced from time to time. It is the only plastic material of this nature on the market that will do this.



Side Wall of Boiler setting repaired and surfaced with RAMTITE.

RAMTITE is thoroughly milled and mulled in a special type machine, which makes it more plastic than other plastic compounds now on the market, it therefore requires less ramming. Contains only virgin materials, which have been carefully selected, each material selected for its high refractory value.



Repairing side wall over chain grate stoker.

RAMTITE installations give two to three times the service of ordinary fire brick.

RAMTITE can be easily installed by unskilled labor. Anyone who can use a mallet and a trowel can install RAMTITE, following our directions.



Side Wall and Bridge Wall replaced with RAMTITE.

The S. OBERMAYER CO.

RAMTITE

Where to Use RAMTITE

Complete Boiler Settings.
Furnace Linings.
Front Door Arches.
Combustion Chamber Arches and Walls.
Furnace Floors.
Deflecting Piers.
Wing Walls.
Baffles.
Door Linings.
Coke Oven Door Linings.
Up-Takes in Coke Ovens.
Flue Linings.
Repairing Malleable Iron Furnace Linings and Bridge Walls.
Open Flame Furnace Linings.
Pit Type Furnace Linings.



Front Door Arch lined with RAMTITE.

Advantages of Ramtite

Pressure of load distributed over entire wall.

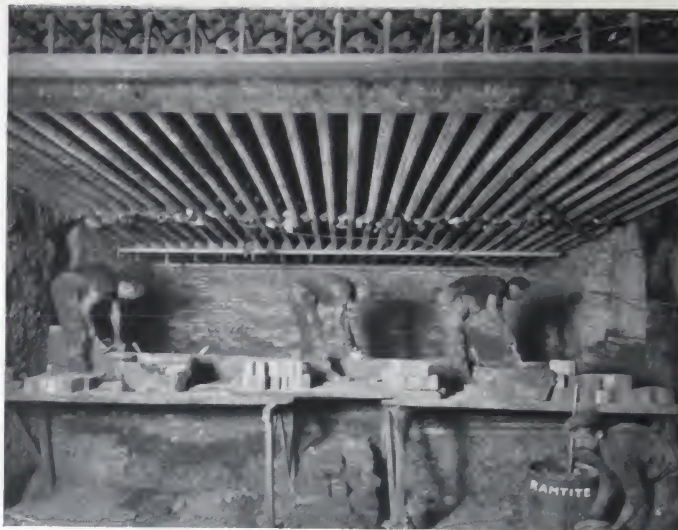
Stands severe temperature changes.

Stands great mechanical vibration, being a one-piece lining.

Makes a dense wall so that clinkers do not adhere to it as readily.

Makes a one-piece lining with no joints, therefore is gas- and air-tight and saves fuel.

Heat radiation less than fire brick.



Repairing bridge wall and surfacing same with a Protective Coating of RAMTITE.

DO NOT ALLOW A RAMTITE INSTALLATION TO AIR DRY! Immediately upon completion of the ramming and smoothing operations build a fire of either wood or banked coal. Always keep your fire under control so that any supports that may be used, as in baffling work, may not be consumed before vitrification has been accomplished. Fires that are too hot will form steam pockets and blow holes.



Setting on an Ocean-going vessel rammed with RAMTITE.

The S. OBERMAYER CO.

RAMTITE

RAMTITE Used to Replace Lentil Block in Coke Oven

RAMTITE is successfully used to replace Lentil Blocks in Coke Ovens. It can be rammed in place to substitute for Lentil Blocks at a considerable saving, both in cost of block and labor. Owing to the ovens warping slightly at times, the Lentil Block has to be cut to fit properly, while with RAMTITE it is merely rammed in place, fitting much closer than a cut block and installed in much less time.



Showing old Lentil Block removed, ready to be replaced by RAMTITE.

RAMTITE for Lining Up-Takes on By-Products Coke Ovens

On these ovens the general practice has been to use either a $\frac{1}{2}$ -inch casting unlined, or a $\frac{1}{4}$ -inch sheet rolled and tapered into shape and lined with brick and fire clay. By using RAMTITE the cost of such a lining is lowered, the time of installation lessened, and the resulting monolithic structure will give far better results than those obtained under the old method.



RAMTITE used to replace Lentil Block in Coke Oven.

The S. OBERMAYER CO.

RAMTITE



RAMTITE tested against fire brick wall in an oil fired furnace. Walls are removed to show the effects of firing at high temperatures. Note RAMTITE wall in perfect condition.

To make complete installation: First tear out all of the old fire brick lining, as well as the headers in the red brick wall and brush the surface clean. This will leave pockets or cavities into which RAMTITE can be pounded. Next mix a small amount of RAMTITE with water to form a thin grout and apply same to surface against which you are going to pound RAMTITE. This prepares the surface so that RAMTITE will stick.

RAMTITE weighs approximately 130 pounds to the cubic foot. To estimate your requirements, measure the length, height and thickness of the particular wall, arch or lining and express same in cubic feet. Multiply this by 130 pounds to the cubic foot and you will have the number of pounds of RAMTITE necessary for your particular job. Allowance should be made for at least fifty pounds which goes into the pockets for every ten square feet, where complete installations are made.

Where new settings are built and the outer red brick walls are allowed several days to set before installing RAMTITE, instruct your brick mason to leave plenty of pockets in the red brick wall in order that you may have something to tie your RAMTITE to, when ramming.

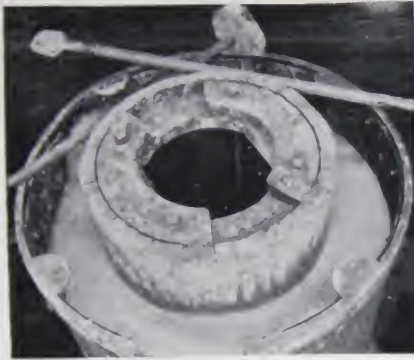
When drying, often surface cracks appear, but these are easily closed by rubbing a little RAMTITE or mixing same to a thick grout and brushing on until the cracks are filled.



Melting Zone of Cupola Lining repaired with RAMTITE.

The S. OBERMAYER Co.

RAMTITE



Method of lining Tilting Type Melting Furnace with RAMTITE.



Same Furnace Completed.

In Circular Furnace Lining Work, such as in Brass Foundries using pit furnaces and other circular furnaces, a three piece core is generally used when ramming a lining of RAMTITE. (Note illustration above.) This core is so constructed that it is easily removed as soon as the ramming is completed. If a core that is not easily knocked down is used, it is good practice to grease this core so that it may be easily removed. A slow fire to assist in the drying and a still hotter fire in the vitrification.



Pit furnace lined with Ramtite

For temporary repairs. Take out all spawled and burned-out brick and clean with a brush. First coat with a thin grout of RAMTITE and water and then ram. Smooth off with a trowel. If the patch is large, of course it will be necessary to dry slowly and then bake.

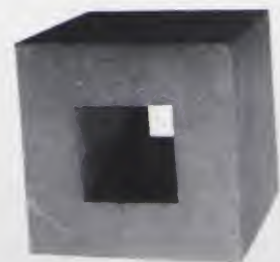
For quick repairs, without removing fire, take RAMTITE from container, work into proper shape, place on end of slice bar and rub into place. This will keep the setting on the line until complete repairs can be made.

RAMTITE is packed in a new white ash, wooden barrel of tongue and groove construction, properly steeled to insure carrying strength, and pitch lined to preserve the material indefinitely. Each barrel contains about 530 Net Pounds of Material or four cubic feet of RAMTITE.

RAMTITE should be stored in a cool place, but the temperature of storage room should not be allowed to get below freezing point.



Special shapes and tile formed from RAMTITE.



The S. OBERMAYER CO.

ESSO BOND No.40

ESSO BOND No. 40 is entirely a bonding cement, being a very dense, silky, plastic material, forming very close and tight bond between all fire clay and silica brick, and does not depend upon heat for a bond, but air-sets at normal temperatures, making a wall of uniform strength throughout, retaining this bond at all temperatures up to its fusion point of approximately 2800° F.

ESSO BOND No. 40 is also used for binding granular refractories for furnace linings as well as repairs. Such granular refractories as Carborundum Firesand, Gannister and Crushed Fire Brick.

ESSO BOND No. 40 is used very largely by Gas Plants for hot patching and repairing gas benches, generators and carburetors, vertical and inclined retorts. Also mixed with silica sand and the like for spraying Coke Oven Flues, tightening furnace walls, arches and stacks.

Where great strength is desired between fire brick joints, ESSO BOND No. 40 is an excellent material to use. It bonds fire brick and tile together with a joint mechanically able to withstand vibration and expansion stress.



Where to Use Esso Bond No. 40

For Bonding Fire Brick and Tile.

For Tightening Furnace Walls and Arches.

For Sealing Openings.

For Hot Patching Furnace Linings, Gas Retorts, Etc.

Used as a binder for ramming linings with Crushed Fire Brick, Car-

borundum Firesand and Gannisters.

Bonding new courses or veneer of fire brick to old wall.

For stopping leaks between bricks and iron work.

For Lining ladles and making ladle washes.

Formulas

For Laying Fire Brick, Setting Shapes and Tile.

ESSO BOND No. 40.....6 Pounds
Water1 Pint

For Large Patches and Repairs.

ESSO BOND 40100 Pounds
Refractory Material100 Pounds
Water8 Quarts

Mix dry and add water. Note the dryness of refractory material may necessitate the addition of a larger quantity of water.

For Rammed-up Linings, Shapes, etc.

ESSO BOND No. 40.....100 Pounds
Refractory Material100 Pounds
Water8 Quarts

ESSO BOND No. 40 for SPRAYING.

ESSO BOND No. 40.....20 Pounds
Warm Water1 Quart

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